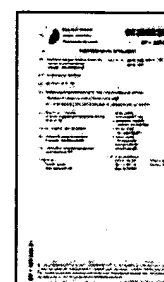


DELPHION

No active tr.

Select CR**St****RESEARCH****PRODUCTS****INSIDE DELPHION****Log Out** **Work Files** **Saved Searches****My Account****Search:** Quick/Number Boolean Advanced Der**The Delphion Integrated View****Get Now:**  **PDF** | [More choices...](#)**Tools:** Add to Work File: Create new Work**View:** [Expand Details](#) | [INPADOC](#) | **Jump to:** Top**Go to:** [Derwent](#) **Email****Title:** **EP1005849B1: Two-phase composition for treating the hair or the s**
[German][French]**Derwent Title:** Manually and reversibly emulsifiable hair- or scalp-treatment
composition free of organic emulsifiers [\[Derwent Record\]](#)**Country:** EP European Patent Office (EPO)**Kind:** B1 Patent (See also: [EP1005849A1](#))**Inventor:** Koschik, Achim;
Breda, Carina;
Jahedshoar, Mehrdad;
Eicken, Ulrich;
Jungo, Sybille;
Bormuth, Hiltrud;**Assignee:** **Wella Aktiengesellschaft**
[News, Profiles, Stocks and More about this company](#)**Published / Filed:** 2001-09-19 / 1999-10-15**Application**
Number: EP1999000120517**IPC Code:** [A61K 7/00](#); [A61K 7/06](#); [A61K 7/48](#);**ECLA Code:** [A61K8/03](#);**Priority Number:** 1998-12-03 **DE1998019855767****Abstract:** [From equivalent EP1005849A1] Gegenstand der Erfindung ist eine Zusammensetzung zur Behandlung von Haaren und/oder der Kopfhaut gebildet aus mindestens zwei nicht miteinander mischbaren flüssigen Phasen, wobei eine der Phasen in Form von Tropfen vorliegt, welche von einer Größe sind, die mit bloßem Auge gut sichtbar ist, d.h. einen Durchmesser von mindestens etwa 1 mm besitzen und wobei die Zusammensetzung durch Schütteln per Hand in eine feinere Emulsion, welche für einen für die Anwendung ausreichenden Zeitraum stabil ist, überführt werden kann und aus der sich die ursprüngliche Phasen- und Tropfenstruktur spontan und reversibel zurückbildet.**INPADOC** [Show legal status actions](#) **Get Now:** [Family Legal Status Report](#)**Legal Status:** AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE**Designated**
Country:**Family:** [Show 8 known family members](#)**First Claim:** 1. Composition for treating hair or the scalp, comprising at least
[Show all claims](#) two immiscible liquid phases, where**BEST AVAILABLE COPY**

- (A) a first phase is a continuous phase and comprises, as solvent, water, hydrophilic organic solvents or a hydrous or anhydrous hydrophilic solvent mixture and where
- (B) a second phase is discontinuous, comprises at least one hydrophobic liquid and this second phase is in the form of droplets which are of a size such that the droplets are readily visible with the naked eye and can be differentiated from one another, i.e. have a diameter of at least about 1 mm,
- (C) the composition comprises at least one finely divided, pulverulent inorganic solid which is insoluble in the composition, as dispersant,
- (D) the composition comprises at least one film-forming, hair-setting polymer

and where the composition can be converted, by shaking by hand, into a finer emulsion or pseudoemulsion which is stable for a period of time sufficient for the application, and from which the original phase and droplet structure reforms spontaneously and reversibly.

[German] [French]

Description

[Expand description](#)

Gegenstand der Erfindung ist eine Zusammensetzung gebildet aus mindestens zwei nicht miteinander mischbaren flüssigen Phasen, wobei eine der Phasen in Form von Tropfen vorliegt, welche von einer Größe sind, die mit bloßem Auge gut sichtbar ist, d.h. einen Durchmesser von mindestens etwa 1 mm besitzen, zur Behandlung von Haaren und/oder der Kopfhaut.

± **Beispiel 1: Zweiphasige Haarbehandlungsmittel mit perlenartigen Paraffintröpfchen**

± **Beispiel 2: Zweiphasiges Haarbehandlungsmittel mit nahezu schwebenden perlenartigen Paraffintröpfchen**

± **Beispiel 3: Haarpflege-Tonikum mit abgesetzten perlenartigen Paraffintröpfchen**

± **Beispiel 4: Zweiphasiges Haarbehandlungsmittel mit perlenartigen Paraffintröpfchen**


± **Beispiel 5: Haarpflege-Tonikum mit perlenartigen Paraffintröpfchen**

± **Beispiel 6: Haarpflegemittel**

± **Beispiel 7: Haarpflegemittel**

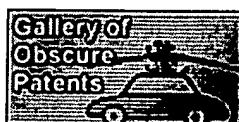
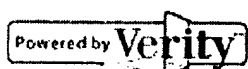
Forward References:

Go to Result Set: Forward references (1)

PDF	Patent	Pub.Date	Inventor	Assignee	Title
	US6884766	2005-04-26	DeClercq; Marc Johan	The Procter & Gamble Company	Multi-phase fabric care composition for delivering fabric care benefits

Other Abstract Info:

CHEMABS 132(04)040315G [DERABS C2000-073917](#)



[Nominate this for the Gallery...](#)

The invention relates to a composition formed from at least two immiscible liquid phases, where one of the phases is in the form of drops which are of a size which is readily visible with the naked eye, i.e. have
5 a diameter of at least about 1 mm, for treating hair and/or the scalp.

The physical, chemical and morphological properties of the hair and scalp are impaired by various types of
10 effects. For example, cosmetic treatments, such as, for example, frequent bleaching, permanent waving and colouring, and even frequent washing of the hair with degreasing surfactants, and also climatic influences, such as changes in humidity and temperature, or the
15 intensive effect of sunlight damage the structure of the hair. The hair becomes brittle and loses its natural shine. The hair damaged in this way becomes electrostatically charged upon combing and brushing and the roughened surface of the hair leads, as a result of
20 matting and knotting, to poor combability and entanglement of the hair.

This negative state of the hair can be improved using haircare compositions, such as, for example, hair-
25 treatment compositions. Hair-treatment compositions with a care and combability-improving action are thus of great importance for modern haircare. Hair-treatment compositions are usually in the form of emulsions or suspensions which comprise fatty alcohols, waxes and
30 oils, and synthetic, organic, anionic, cationic, amphoteric, nonionic, but predominantly cationic, emulsifiers.

The hair-treatment compositions to date are not
35 entirely satisfactory in all respects, meaning that there is a continued need for improvements. In particular, a hair-treatment composition would be of interest which manages without synthetic organic

emulsifiers since the latter can have too strong a degreasing action or else a skin-irritating action to a certain extent. Particularly in the case of cationic emulsifiers, narrow limits are imposed on the amounts
5 which can be used. Although the use of a high concentration would lead to advantageous emulsion properties being achieved, on the other hand, disadvantageous effects on the scalp and hair would be caused. Thus, particularly in the case of use on
10 normal, undamaged hair, too strong a care effect may arise, which is evident from a weighing-down of the hair both in the wet and also in the dry state. If the care action is too strong, there may even be a reverse effect on the hair, where the hair becomes harsh and
15 more difficult to comb following treatment than before treatment.

Although small amounts of cationic emulsifiers do not cause skin damage, on the other hand, they do not allow
20 any useable emulsions to arise and develop only an unsatisfactory care action. Moreover, cationic emulsifiers have the additional disadvantages that they are irritating to mucous membranes and are not biodegradable, or are only poorly biodegradable.

25 Furthermore, hair tonics or hair lotions based on alcoholic or aqueous-alcoholic solutions are known. These compositions are either used to impart a pleasing scent note to the hair, if they only comprise
30 fragrances, or they are used to keep the scalp and hair healthy, or to restore the normal function thereof. In this case, they comprise corresponding active ingredients dissolved in the alcoholic or aqueous-alcoholic medium.

35 DE 2 259 756 discloses two-phase, liquid cosmetic preparations which consist of an aqueous phase and an oil phase, comprise finely divided solid dispersants

insoluble in the two phases, and where the oil phase is dispersed in the form of spherules.

5 The object was to make available a composition which satisfies the requirements placed on a hair treatment comprising oil-like substances on the one hand, and on a hair tonic or hair lotion on the other hand, to the same extent and, in addition, manages without organic, in particular without cationic, emulsifiers. Further-
10 more, the composition should be present in an optically pleasing form and be readily distributable on the hair.

It has now been found that a composition for treating hair and/or the scalp satisfies the requirements
15 imposed if it comprises at least two immiscible liquid phases, where

- (A) a first phase is a continuous phase and comprises, as solvent, water, hydrophilic organic solvents or a hydrous or anhydrous hydrophilic solvent mixture
20 and where
- (B) a second phase is discontinuous, comprises at least one hydrophobic liquid and this second phase is in the form of drops which are of a size such that the drops are readily visible with the naked
25 eye and can be differentiated from one another, i.e. have a diameter of at least about 1 mm, preferably from 1 to 10 mm,
- (C) the composition comprises at least one finely divided, pulverulent inorganic solid which is
30 insoluble in the composition, as dispersant,
- (D) the composition comprises at least one film-forming, hair-setting polymer

and where the composition can be converted, by shaking by hand, into a finer emulsion or pseudoemulsion which
35 is stable for a period of time sufficient for the application, and from which the original phase and drop structure reforms spontaneously and reversibly. The drops are preferably bead-like in size, shape and appearance.

Particularly good distributability on the hair is achieved if the composition is combined with a spraying device. The hair-treatment composition according to the invention is then in the form of a non-aerosol hairspray and is sprayed using a suitable mechanically operated spraying device. Mechanical spraying devices are to be understood as meaning those devices which permit the spraying of a liquid using a propellant. A suitable mechanical spray device which may be used is, for example, a spray pump or an elastic container provided with a spray valve and in which the cosmetic composition according to the invention has been filled under pressure, where the elastic container expands, and the composition is continuously discharged therefrom as a result of the elastic container contracting when the spray valve is opened. The invention thus also provides a means for treating hair or the scalp, consisting of a composition and a device for spraying the composition, where the composition comprises at least two immiscible liquid phases, where

- (A) a first phase is a continuous phase and comprises, as solvent, water, hydrophilic organic solvents or a hydrous or anhydrous hydrophilic solvent mixture and where
- (B) a second phase is discontinuous, comprises at least one hydrophobic liquid and this second phase is in the form of drops which are of a size such that the drops are readily visible with the naked eye and can be differentiated from one another, i.e. have a diameter of at least about 1 mm,
- (C) the composition comprises at least one finely divided, pulverulent inorganic solid which is insoluble in the composition, as dispersant

and where the composition can be converted, by shaking by hand, into a finer emulsion or pseudoemulsion which is stable for a period of time sufficient for the application, and from which the original phase and drop structure reforms spontaneously and reversibly.

A particularly low weighting of the treated hair is achieved if the hydrophobic phase comprises at least one hydrophobic, liquid, readily volatile substance which is preferably chosen from volatile silicones and volatile hydrocarbons. The invention thus further provides a composition for treating hair or the scalp, comprising at least two immiscible liquid phases, where

(A) a first phase is a continuous phase and comprises, as solvent, water, hydrophilic organic solvents or a hydrous or anhydrous hydrophilic solvent mixture and where

(B) a second phase is discontinuous, comprises at least one hydrophobic, liquid, readily volatile substance, preferably chosen from silicones and hydrocarbons, and this second phase is in the form of drops which are of a size such that the drops are readily visible with the naked eye and can be differentiated from one another, i.e. have a diameter of at least about 1 mm,

(C) the composition comprises at least one finely divided, pulverulent inorganic solid which is insoluble in the composition, as dispersant and where the composition can be converted, by shaking by hand, into a finer emulsion or pseudoemulsion which is stable for a period of time sufficient for the application, and from which the original phase and drop structure reforms spontaneously and reversibly.

In a preferred embodiment, the hydrophobic phase consists of a combination of at least one readily volatile hydrocarbon and at least one hydrophobic liquid of low volatility. For the purpose of this invention, readily volatile substances are those which evaporate without residue at 100°C over the course of 20 minutes from a hair tress soaked in the substance. Preference is given to substances which have a boiling point below 250°C at atmospheric pressure. For the purpose of the invention, substances of low volatility are those which are not readily volatile in accordance

with the above definition. Suitable readily volatile substances are readily volatile paraffins, readily volatile isoparaffins or readily volatile silicone oils. Preference is given to branched or unbranched hydrocarbons having 6 to 14 carbon atoms, preferably having 8 to 12 carbon atoms, such as, for example, decane or dodecane, and isomers thereof, and linear or cyclic dimethylpolysiloxanes, such as, for example, dimethicones or cyclomethicones.

10

As dispersants, the composition can comprise finally divided, pulverulent inorganic solids insoluble in the composition, which are also known under the term Pickering emulsifiers. Known examples are talc, calcium carbonate, magnesium carbonate, barium sulphate, aluminium hydroxide, hydroxylapatite, tricalcium phosphate and calcium oxalate. Also suitable are silica, mica and titanium dioxide. To achieve colour and pearly lustre effects, the inorganic dispersants can be used in a mixture with further solids insoluble in the composition, such as, for example, colour pigments or pearly lustre pigments, in particular those based on mica. The use amount of the dispersants is preferably from 0.01 to 1 per cent by weight, particularly preferably from 0.1 to 0.6 per cent by weight. However, the dispersants can be used in amounts as low as 0.001% by weight and in concentrations up to 2% by weight. The content of pigments may be 0.001 to 0.5 per cent by weight.

30

Suitable solvents for the first continuous phase of the composition are primarily water, monohydric branched or unbranched alcohols having preferably 1 to 4 carbon atoms and polyhydric alcohols having preferably 1 to 4 carbon atoms, or mixtures of said solvents. Preferred monohydric alcohols are, for example, ethanol, n-propanol and isopropanol. Preferred polyhydric alcohols are ethylene glycol, propylene glycol and glycerol, of which glycerol is particularly preferred. A hydrophilic

According to the invention, hair-setting polymers are to be understood as meaning polymers which, when used in a 0.01 to 5% strength aqueous, alcoholic or aqueous-alcoholic solution, are able to deposit a polymer film
5 on the hair and in this way to set the hair.

Suitable synthetic, nonionic film-forming, hair-setting polymers are, for example, homopolymers of vinylpyrrolidone, and homopolymers of N-vinylformamide.
10 Further suitable synthetic film-forming, nonionic, hair-setting polymers are, for example, copolymers of vinylpyrrolidone and vinyl acetate, terpolymers of vinylpyrrolidone, vinyl acetate and vinyl propionate, polyacrylamides which are sold, for example, under the
15 trade names Akyponine® P 191 by CHEM-Y, Emmerich, or Sepigel® 305 by Seppic; polyvinyl alcohols, which are sold, for example, under the trade names Elvanol® by Du Pont or Vinol® 523/540 by Air Products, and polyethylene glycol/polypropylene glycol copolymers, which
20 are sold, for example, under the trade names Ucon® by Union Carbide.

Suitable natural film-forming polymers with a hair-setting action are, for example, chitosan with a molecular weight of from 20 000 to about 5 million g/mol. In
25 addition, various saccharide types can be used, such as polysaccharides or mixtures of oligosaccharides, monosaccharides and disaccharides, which are sold, for example, under the trade name C-PUR® by Cerestar,
30 Brussels. Further suitable natural polymers are chinese balsam resin and cellulose derivative, e.g. hydroxypropylcellulose with a molecular weight of from 30 000 to 50 000 g/mol, which is sold, for example, under the trade name Nisso Sl® by Lehmann & Voss, Hamburg. A
35 further natural polymer is shellac. Shellac can be used in neutralized form and unneutralized.

Suitable anionic polymers contain acid groups which can be neutralized with suitable bases. The acid groups are

preferably chosen from -COOH , $\text{-SO}_3\text{H}$, $\text{-OSO}_3\text{H}$, $\text{-OPO}_2\text{H}$ and $\text{-OPO}_3\text{H}_2$. Carboxylic acid groups are particularly preferred. 50 to 100% of the acid groups are preferably present in anionic or neutralized form. Neutralizing agents which can be used for cosmetic purposes are suitable organic or inorganic bases. Examples of bases are aminoalcohols such as, for example, aminomethylpropanol (AMP), triethanolamine or monoethanolamine and ammonia, NaOH and others.

10

The hair-setting polymer may be a natural or a synthetic homopolymer or copolymer with monomer units containing acid groups and which has optionally been copolymerized with comonomers which do not contain acid groups. Suitable monomers are unsaturated, free-radically polymerizable compounds which carry at least one acid group, in particular carboxyvinyl monomers. Suitable monomers containing acid groups are, for example, acrylic acid, methacrylic acid, crotonic acid, maleic acid or maleic anhydride, or monoesters thereof, aldehydocarboxylic acids or ketocarboxylic acids.

Comonomers not substituted by acid groups are, for example, acrylamide, methacrylamide, alkyl- and dialkylacrylamide, alkyl- and dialkylmethacrylamide, alkyl acrylate, alkyl methacrylate, vinylcaprolactone, vinylpyrrolidone, vinyl ester, vinyl alcohol, propylene glycol or ethylene glycol, amine-substituted vinyl monomers, such as, for example, dialkylaminoalkylacrylate, dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate or monoalkylaminoalkyl methacrylate, the alkyl groups of these monomers preferably being C1- to C7- alkyl groups, particularly preferably C1- to C3-alkyl groups.

35

Suitable anionic polymers are, in particular, homopolymers of acrylic acid or of methacrylic acid which are noncrosslinked or crosslinked with polyfunctional agents, copolymers of acrylic acid or methacrylic acid

with monomers chosen from acrylic or methacrylic esters, acrylamides, methacrylamides and vinylpyrrolidone, homopolymers of crotonic acid, and copolymers of crotonic acid with monomers chosen from vinyl esters,
5 acrylic or methacrylic esters, acrylamides and methacrylamides. A suitable natural polymer is, for example, shellac.

Preferred anionic polymers are crosslinked or non-
10 crosslinked vinyl acetate/crotonic acid copolymers. Also preferred are partially esterified copolymers between vinyl methyl ether and maleic anhydride. Further suitable anionic polymers are, for example, terpolymers of acrylic acid, alkyl acrylate and
15 N-alkylacrylamide, in particular acrylic acid/ethyl acrylate/N-t-butylacrylamide terpolymers or terpolymers of vinyl acetate, crotonate and vinyl alkanoate, in particular vinyl acetate, crotonate/vinyl neodecanoate copolymers.

20 Suitable amphoteric polymers are those which, in addition to acidic or anionic groups, comprise, as further functional groups, basic or cationic groups, in particular primary, secondary, tertiary or quaternary
25 amine groups. Examples thereof are copolymers formed from alkylacrylamide (in particular octylacrylamide), alkylaminoalkyl methacrylate (in particular t-butylaminoethyl methacrylate) and two or more monomers consisting of acrylic acid, methacrylic acid or esters
30 thereof, as are available, for example, under the trade name Amphomer® or Amphomer® LV-71 from NATIONAL STARCH, USA. Further examples of suitable amphoteric copolymers are copolymers of acrylic acid, methyl acrylate and methacrylamidopropyltrimethylammonium
35 (INCI name: Polyquaternium-47), as are sold, for example, by Calgon under the trade name Merquat® 2001, copolymers of acrylamidopropyltrimethylammonium chloride and acrylates, as are available, for example, from Stockhausen under the trade name W 37194, or copolymers

of acrylamide, acrylamidopropyltrimethylammonium chloride, 2-amidopropylacrylamidesulphonate and dimethylaminopropylamine (INCI name: Polyquarternium-43), as are sold, for example, by Societe Francaise Hoechst
5 under the trade name Bozequat® 4000. Also suitable are polymers with monomers carrying betaine groups, such as, for example, copolymers of methacryloylethylbetaine and two or more monomers of acrylic acid or simple esters thereof, known under the INCI name Methacryloyl
10 Ethyl Betaine/Acrylates Copolymer.

Suitable polymers with basic groups have a molecular weight of preferably at least 50 000 g/mol, particularly preferably from 100 000 to 6 000 000 g/mol
15 and contain nitrogen-containing groups, such as, for example, primary, secondary or tertiary amines. The basic polymers can be partially or completely neutralized with suitable, cosmetically compatible acids and thus be in cationic form. Suitable acids are,
20 for example, formic acid, pyrrolidonecarboxylic acid, lactic acid etc. The basic group is either present in the polymer chain or preferably present as a substituent on one or more monomers.

25 The polymer with basic groups may be a natural or a synthetic homopolymer or copolymer containing amine-substituted monomer units, and optionally containing nonbasic comonomers. Suitable polymers with basic groups are, for example, copolymers of amine-
30 substituted vinyl monomers and non-amine-substituted monomers. Amine-substituted vinyl monomers are, for example, dialkylaminoalkyl acrylate, dialkylaminoalkyl methacrylate, monoalkylaminoalkyl acrylate and monoalkylaminoalkyl methacrylate, the alkyl groups of
35 these monomers preferably being lower alkyl groups, such as, for example, C1- to C7-alkyl groups, particularly preferably C1- to C3-alkyl groups.

Non-amine-substituted comonomers are, for example, acrylamide, methacrylamide, alkyl- and dialkylacrylamide, alkyl- and dialkylmethacrylamide, alkyl acrylate, alkyl methacrylate, vinylcaprolactone, vinylpyrrolidone, vinyl ester, vinyl alcohol, maleic anhydride, propylene glycol or ethylene glycol, the alkyl groups of these monomers preferably being C1- to C7-alkyl groups, particular preferably C- to C3-alkyl groups.

10

Suitable polymers with cationic groups preferably contain quaternary amine groups. The cationic polymers may be homopolymers or copolymers, the quaternary nitrogen groups being present either in the polymer chain or preferably as a substituent on one or more monomers. The monomers containing ammonium groups may be copolymerized with the abovementioned non-amine-substituted monomers. Suitable ammonium-substituted vinyl monomers are, for example, trialkylmethacryloxyalkylammonium, trialkylacryloxyalkylammonium, dialkyldiallylammonium and quaternary vinylammonium monomers with cyclic groups containing cationic nitrogens, such as pyridinium, imidazolium or quaternary pyrrolidones, e.g. alkylvinylimidazolium, alkylvinylpyridinium, or alkylvinylpyrrolidone salts. The alkyl groups of these monomers are preferably lower alkyl groups, such as, for example, C1- to C7-alkyl groups, particularly preferably C1- to C3-alkyl groups.

30 Suitable polymers with quaternary amine groups are, for example, the polymers described in the CTFA Cosmetic Ingredient Dictionary under the names Polyquaternium, such as methylvinylimidazolium chloride/vinylpyrrolidone copolymer (Polyquaternium-16), quaternized vinylpyrrolidone/dimethylaminoethyl methacrylate copolymer (Polyquaternium-11), homo- and copolymers of dimethyldiallylammonium chloride (Polyquaternium-6 and -7), quaternized hydroxyethylcellulose (Polyquaternium-10) or quaternized guar derivatives.

Of the cationic polymers which may be present in the composition according to the invention, polyvinylpyrrolidone/dimethylaminoethyl methacrylate copolymer, for example, is suitable. Further cationic polymers are, for example, the copolymer of polyvinylpyrrolidone and imidazolimine[sic] methochloride, the terpolymer of dimethyldiallylammonium chloride, sodium acrylate and acrylamide, the terpolymer of vinylpyrrolidone, dimethylaminoethyl methacrylate and vinylcaprolactam, quaternized ammonium salts of hydroxyethylcellulose and a trimethylammonium-substituted epoxide and vinylpyrrolidone/methacrylamidopropyltrimethyl ammonium chloride copolymers.

The second, discontinuous phase present in drop form comprises, as solvents or as haircare active ingredients, hydrophobic liquids in an amount of preferably 2 to 35 per cent by weight, particularly preferably from 5 to 30 per cent by weight, based on the overall composition. Suitable haircare oil-like liquids are, for example, of vegetable, synthetic or mineral origin, or mixtures thereof. Suitable solvents are, for example, linear or branched aliphatic or aromatic hydrocarbons having at least 5 carbon atoms or silicone compounds such as, for example, low-viscosity cyclic or linear dimethylpolysiloxanes (silicone oils). Suitable constituents of the hydrophobic phase are also paraffins, isoparaffins, mineral oil, paraffin oil, vegetable oils, fatty acid esters, fatty acids, fatty alcohols, readily spreading oils, such as isopropyl myristate, dicaprylyl ether, octyldodecanol, jojoba oil, phospholipids, such as lecithin, ceramides, silicone compounds or mixtures thereof. The fatty acid esters may be esters of fatty acids with short-chain (C1-C6) monoalcohols, or with fatty alcohols, or may be mono-, di- or triglycerides, as are present, in particular, in naturally occurring vegetable oils such as avocado oil, sunflower oil etc. Preferred fatty alcohols are linear and have a chain length of from 8

to 22 carbon atoms. Preferred ingredients of the hydrophobic phase are chosen from paraffins, isoparaffins, mineral oil, paraffin oil, vegetable oils, fatty acid esters, fatty acid glycerides and
5 silicone compounds. Particular preference is given to paraffin oils and silicone oils.

In the hydrophobic phase, haircare and/or skincare non-liquid substances may advantageously also be present in
10 dissolved form, for example, waxes, e.g. fruit or plant waxes, such as apple wax, holly resin, beeswax and also lanolin, paraffin wax, vaseline or higher-viscosity silicone compounds and silicone resins.

15 Further customary cosmetic additives may be added to the composition according to the invention, provided they do not adversely affect the two-phase and drop structure, for example perfume oils in an amount of from 0.1 to 5 per cent by weight, opacifiers, such as
20 ethylene glycol distearate, in an amount of from 0.2 to 5 per cent by weight, bactericidal and fungicidal active ingredients, thickeners, pH buffer substances, humectants, dyes, light protection agents, anti-oxidants, complexing agents, antidandruff active
25 ingredients, and also physiologically compatible acids, such as, for example, formic acid, glyoxylic acid, lactic acid, tartaric acid or citric acid and natural, modified natural or synthetic polymers.

30 Particularly preferred additives are the additives typical for a hair tonic or for a hair lotion, such as fragrances and active ingredients, e.g. plant extracts, vitamins, amino acids, vasodilatory agents, bactericidal substances, antidandruff substances and others.

35 A preferred composition comprises

(A) 60 to 95 % by weight of at least one monohydric branched or unbranched alcohol having 1 to 4 carbon atoms,

- (B) at least one polyhydric alcohol having 1 to 4 carbon atoms in an amount up to at most 30 % by weight,
- (C) water in an amount up to at most 30 % by weight,
- 5 (D) 2 to 35 % by weight of at least one hydrophobic liquid,
- (E) 0.01 to 1 % by weight of at least one finely divided, pulverulent inorganic dispersant insoluble in the composition and
- 10 (F) at least one film-forming, hair-setting polymer.

The number and size of the droplets of the hydrophobic phase can be adjusted by changing the quantitative ratio of hydrophilic to hydrophobic phase, and by
15 varying the amount of dispersant. By adjusting the density of the phases, it is possible to achieve a state where the hydrophobic droplets coated with the dispersant are suspended or virtually suspended in the continuous hydrophilic phase. Such a composition
20 represents a particularly preferred embodiment. The density of an alcoholic, e.g. an ethanolic phase can be increased, for example, by adding a hydrophilic substance of higher density, such as, for example, glycerol or by adding optionally salt-containing water.
25 In a preferred embodiment with virtually suspending paraffin droplets, 65 to 75 per cent by weight, particular preferably about 70 per cent by weight, of ethanol, 5 to 15 per cent by weight, particularly preferably about 10 per cent by weight, of glycerol, 15
30 to 25 per cent by weight, particularly preferably about 20 per cent by weight, of paraffin oil and 0.2 to 0.4 per cent by weight, particularly preferably about 0.3 per cent by weight, of dispersant, in particular talc, are present.

35

The composition is used by shaking it by hand directly prior to application until a finer emulsion has formed, which is then applied to dry or damp hair. The

composition can be massaged into the scalp. The hair is then optionally rinsed, styled and dried.

The examples below serve to illustrate the subject-matter of the invention in more detail, without limiting it thereto.

Example 1: Two-phase hair-treatment composition with bead-like paraffin droplets

10

Talc with the amounts of paraffin oil given below is initially introduced and stirred. Then, with stirring, the amounts of ethanol given below are added.

Ex.	Talc	Paraffin Oil	Ethanol	Result
1.1	0.1	5	ad 100	many small bead-like droplets
1.2	0.1	10	ad 100	relatively large, stable bead-like droplets
1.3	0.3	20	ad 100	very pretty, well defined bead-like droplets
1.4	0.3	30	ad 100	relatively large, less well defined droplets

15

By increasing the amount of talc, the alcohol/paraffin oil ratio can be changed in favour of the oil. The hair-treatment compositions can be used as haircare tonic.

20

Example 2: Two-phase hair-treatment composition with virtually suspended bead-like paraffin droplets

0.3 g of talc
25 0.3 g of perfume
20.0 g of paraffin oil
10.0 g of glycerol
ad 100 g of ethanol

Some or all of the glycerol can be replaced by water, to which inorganic salts, such as, for example, calcium chloride, are added to increase the density.

- 5 **Example 3:** Haircare tonic with deposited bead-like
 paraffin droplets
 0.3 g of talc
 10.0 g of paraffin oil
 10.0 g of silicone oil (Dow Corning fluid 244)
10 10.0 g of glycerol
 ad 100 g of ethanol

- Example 4:** Two-phase hair-treatment composition with
 bead-like paraffin droplets
15 0.08 g of talc
 0.08 g of mica/titanium dioxide (Timiron®
 Starluster MP 115)
 0.3 g of perfume
 5.0 g of Amphomer®
20 (Octylacrylamide/Acrylates/Butyl-aminoethyl
 Methacrylates Copolymer)
 0.82 g of aminomethylpropanol
 10.0 g of paraffin oil
 4.7 g of water
25 4.3 g of glycerol
 ad 100 g of ethanol

- Example 5:** Haircare tonic with bead-like paraffin drops
 0.015 g of talc
30 0.015 g of mica/titanium dioxide (Timiron®
 Starluster MP 115)
 0.2 g of polyvinylpyrrolidone
 10.0 g of paraffin oil
 4.2 g of water
35 13.2 g of propylene glycol
 ad 100 g of ethanol

Example 6: Haircare composition

- 0.3 g of talc
 19.5 g of cyclomethicones (Dow Corning 245)

0.2 g of perfume

30.0 g of ethanol

ad 100 g of water

The composition is transferred to a container provided
5 with a spray pump

Example 7: Haircare composition

0.3 g of silica (Aerosil® 300 from Degussa-Hüls)

9.8 g of isododecane

10 9.7 g of mineral oil (paraffinum perliquidum)

0.2 g of perfume

ad 100 g of ethanol

The composition is transferred to a container provided
with a spray pump.

Patent Claims

1. Composition for treating hair or the scalp,
comprising at least two immiscible liquid phases,
5 where
(A) a first phase is a continuous phase and
comprises, as solvent, water, hydrophilic
organic solvents or a hydrous or anhydrous
hydrophilic solvent mixture and where
10 (B) a second phase is discontinuous, comprises at
least one hydrophobic liquid and this second
phase is in the form of drops which are of a
size such that the drops are readily visible
with the naked eye and can be differentiated
15 from one another, i.e. have a diameter of at
least about 1 mm,
(C) the composition comprises at least one finely
divided, pulverulent inorganic solid which is
insoluble in the composition, as dispersant,
20 (D) the composition comprises at least one film-
forming, hair-setting polymer
and where the composition can be converted, by
shaking by hand, into a finer emulsion or
pseudoemulsion which is stable for a period of
25 time sufficient for the application, and from
which the original phase and drop structure
reforms spontaneously and reversibly.
2. Means for treating hair or the scalp, consisting
30 of a composition and a device for spraying the
composition, where the composition comprises at
least two immiscible liquid phases, where
(A) a first phase is a continuous phase and
comprises, as solvent, water, hydrophilic
35 organic solvents or a hydrous or anhydrous
hydrophilic solvent mixture and where
(B) a second phase is discontinuous, comprises at
least one hydrophobic liquid and this second

phase is in the form of drops which are of a size such that the drops are readily visible with the naked eye and can be differentiated from one another, i.e. have a diameter of at least about 1 mm,

(C) the composition comprises at least one finely divided, pulverulent inorganic solid which is insoluble in the composition, as dispersant, and where the composition can be converted, by shaking by hand, into a finer emulsion or pseudoemulsion which is stable for a period of time sufficient for the application, and from which the original phase and drop structure reforms spontaneously and reversibly.

3. Composition for treating hair or the scalp, comprising at least two immiscible liquid phases, where

(A) a first phase is a continuous phase and comprises, as solvent, water, hydrophilic organic solvents or a hydrous or anhydrous hydrophilic solvent mixture and where

(B) a second phase is discontinuous, comprises at least one hydrophobic, liquid, readily volatile substance with a boiling point below 250°C at normal pressure, and this second phase is in the form of drops which are of a size such that the drops are readily visible with the naked eye and can be differentiated from one another, i.e. have a diameter of at least about 1 mm,

(C) the composition comprises at least one finely divided, pulverulent inorganic solid which is insoluble in the composition, as dispersant, and where the composition can be converted, by shaking by hand, into a finer emulsion or pseudoemulsion which is stable for a period of time sufficient for the application, and from

which the original phase and drop structure reforms spontaneously and reversibly.

4. Composition according to Claim 3, characterized in
5 that the second, discontinuous phase comprises at
least one readily volatile hydrocarbon and at
least one hydrophobic liquid of low volatility.
5. Composition according to one of the preceding
10 claims, characterized in that the solvent of the
first phase is chosen from water, monohydric
branched or unbranched alcohols having 1 to 4
carbon atoms and polyhydric alcohols or mixtures
of said solvents.
6. Composition according to one of the preceding
15 claims, characterized in that the first continuous
phase comprises, as solvent, a hydrophilic solvent
mixture of water, at least one monohydric branched
or unbranched alcohol having 1 to 4 carbon atoms
20 and at least one polyhydric alcohol.
7. Composition according to Claim 5, characterized in
that the monohydric alcohols are chosen from
25 ethanol, n-propanol and isopropanol, and the
polyhydric alcohols are chosen from ethylene
glycol, propylene glycol and glycerol.
8. Composition according to one of the preceding
30 claims, characterized in that the dispersant is
chosen from talc, calcium carbonate, magnesium
carbonate, barium sulphate, aluminium hydroxide,
hydroxylapatite, tricalcium phosphate and calcium
oxalate.
9. Composition according to one of the preceding
35 claims, characterized in that the dispersant is
present in an amount of from 0.01 to 1% by weight.

10. Composition according to one of the preceding claims, characterized in that the hydrophobic liquid of the second phase is chosen from vegetable, synthetic or mineral oily liquids or mixtures thereof.
11. Composition according to one of the preceding claims, characterized in that the hydrophobic liquid of the second phase is chosen from paraffins, isoparaffins, mineral oil, paraffin oil, vegetable oils, fatty acid esters, fatty acid glycerides, silicone compounds or mixtures thereof.
12. Composition according to one of the preceding claims, characterized in that the density of the two phases is set such that the drops of the hydrophobic phase are suspended or virtually suspended in the hydrophilic phase.
13. Composition according to one of the preceding claims, characterized in that the composition comprises
- (A) 60 to 95% by weight of at least one monohydric branched or unbranched alcohol having 1 to 4 carbon atoms,
 - (B) at least one polyhydric alcohol having 1 to 4 carbon atoms in an amount up to at most 30% by weight,
 - (C) water in an amount up to at most 30% by weight,
 - (D) 2 to 35% by weight of at least one hydrophobic liquid,
 - (E) 0.01 to 1% by weight of at least one finely divided, pulverulent inorganic dispersant which is insoluble in the composition and
 - (F) at least one film-forming, hair-setting polymer.

14. Use of a composition according to one of the preceding claims for treating hair.

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☒ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.